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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/014,854	12/14/2001	Tatsuo Shiozawa	217359US2S	1814
22850	7590	03/28/2005	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			PERILLA, JASON M	
			ART UNIT	PAPER NUMBER
			2634	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/014,854

Applicant(s)

SHIOZAWA ET AL.

Examiner

Jason M Perilla

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 7-9, 14-16 and 20 is/are rejected.
- 7) ☒ Claim(s) 3-6, 10-13 and 17-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3/13/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-20 are pending in the instant application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on March 13, 2002 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1 and 7 are rejected under 35 U.S.C. 102(a) as being anticipated by the Applicant's Admitted Prior Art (AAPA).

Regarding claim 1, the AAPA discloses according to figure 7, a radio communication control device comprising: a demodulation unit (13) configured to demodulate a received signal; a detection circuit (17) configured to detect final data contained in a received data stream supplied from the demodulation unit, said detection circuit outputting a final data notification signal when detecting the final data; and a standby period timer (18) configured to set a standby period in accordance with the final

data notification signal output from said detection circuit (pg. 4, line 25 – pg. 5, line 20). According to the AAPA, the detection circuit or frame receiving unit is able to detect the final data, and, afterwards, the standby period is started (pg. 5, lines 17-20). Although the AAPA does not explicitly disclose the detection circuit outputting a final data notification signal, it is disclosed that the counting of the standby period is started when the detection circuit receives (detects) the final data. Therefore, it is inherent that the detection circuit of the AAPA as illustrated in figure 7 and disclosed in the body of the specification (pg. 4, line 25 – pg. 5, line 20) will output at least a start signal which will start the timer or, equivalently, a final notification signal.

Regarding claim 7, the AAPA discloses the limitations according to claim 1 above. Further, the AAPA discloses by figure 7 a transmitter unit (20) connected to the standby period timer (18), and configured to transmit a frame in accordance with an output signal of the standby period timer as illustrated (pg. 1, lines 19-26).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Raphaeli et al (US 2003/0103521; hereafter "Raphaeli").

Regarding claim 2, the AAPA discloses the limitations of claim 1 as applied above. Further, the AAPA discloses that the radio data is in conformity with the IEEE

802.11 standard (pg. 2, lines 15-20). The AAPA does not explicitly disclose that the received data includes a data section containing a plurality of symbols and a symbol length indicating section indicating the number of symbols in the data section.

However, Raphaeli teaches the format of an IEEE 802.11 frame (para. 265) having a data section or payload (para. 269) and a symbol length field or payload length field (para. 292). Therefore, with reference to the disclosure of Raphaeli regarding the nature of an IEEE 802.11 data frame, it would have been obvious to one having ordinary skill in the art at the time which the invention was made that the received data stream of the AAPA radio device would contain a data and a data length portion because it is the standard frame type utilized in IEEE 802.11 communications.

8. Claims 8, 14, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Nguyen (US 5838748).

Regarding claim 8, the AAPA discloses a demodulation unit, detection unit, and a standby period timer as applied to claim 1 above. The AAPA does not disclose that the detection circuit is configured to count the number of symbols to realize the end of a frame and output the final data notification signal. However, Nguyen teaches a communications system wherein the end of the data frame is monitored according to a symbol count (fig. 5, col. 10, lines 57-68). Nguyen teaches an accurate method of determining the end of a transmission and the start of an interframe period because the frame length is known (col. 9, lines 12-20). Further, Nguyen teaches that a type of interframe period timer is started because a measure of the length of the interframe period is known by the receiver (fig. 5A, ref. 110; col. 11, lines 20-21) and that a control

line is lowered (col. 10, lines 65-66). One having skill in the art and being familiar with IEEE 802.11 frames would be motivated according to the teachings of Nguyen to count the number of symbols for the detection of the end of the frame because the end of the frame could be accurately determined as disclosed by Nguyen. Therefore, it would have been obvious to one having ordinary skill in the art at the time which the invention was made to count the number of symbols of demodulated data in a frame in the device of the AAPA according to the teachings of Nguyen because the end of the frame and start of the interframe symbol could be accurately detected.

Regarding claim 14, the AAPA in view of Nguyen disclose the limitations according to claim 8 above. Further, the AAPA discloses by figure 7 a transmitter unit (20) connected to the standby period timer (18), and configured to transmit a frame in accordance with an output signal of the standby period timer as illustrated (pg. 1, lines 19-26).

Regarding claim 15, the AAPA in view of Nguyen disclose the limitations of claim 15 as applied to claims 8 and 14 above. That is, the AAPA in view of Nguyen disclose the demodulation unit, detection circuit, and standby period timer wherein a transmission is started after the standby period timer elapses (pg. 1, lines 19-26) as applied to claims 8 and 14 above.

Regarding claim 20, the AAPA in view of Nguyen disclose the limitations of claim 15 as applied above. Further, the AAPA discloses according to figure 7, a buffer circuit (15) connected to an output terminal of the detection circuit, and configured to hold symbols outputted from the detection circuit; a Viterbi decoder (16) connected to an

output terminal of the buffer circuit, and configured to decode the symbols outputted from the detection circuit, to reproduce a frame; and a frame receiver unit (17) configured to receive the frame outputted from the Viterbi decoder.

9. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the AAPA in view of Nguyen, and in further view of Raphaeli.

Regarding claim 9, the AAPA in view of Nguyen disclose the limitations of claim 8 as applied above. Further, Raphaeli discloses the further limitations of claim 9 as applied to claim 2 above.

Regarding claim 16, the AAPA in view of Nguyen disclose the limitations of claim 15 as applied above. Further, Raphaeli discloses the further limitations of claim 16 as applied to claim 2 above.

Allowable Subject Matter

10. Claims 3-6, 10-13, and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art of record not relied upon above is cited to further show the state of the art with respect to end of frame detection.

U.S. Pat. No. 5828663 to Ikegami.

U.S. Pat. No. 6671284 to Yonge et al.

U.S. Pub. No. 2002/0163933 to Benveniste.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M Perilla whose telephone number is (571) 272-3055. The examiner can normally be reached on M-F 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on (571) 272-3056. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jason M. Perilla
March 11, 2005

jmp



CHIEH M. FAN
PRIMARY EXAMINER